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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/528,690	03/22/2005	Tadatomo Suga	0095/022001	4609
22893 7590 12/29/2008 SMITH PATENT OFFICE 1901 PENNSYLVANIA AVENUE N W SUITE 901 WASHINGTON, DC 20006			EXAMINER NGUYEN, TAI V	
			ART UNIT 3729	PAPER NUMBER
			MAIL DATE 12/29/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/528,690

Applicant(s)

SUGA ET AL.

Examiner

TAI NGUYEN

Art Unit

3729

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 September 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☒ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1 is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-946)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/ICE)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. This application is in condition for allowance except for the following formal matters:

The claims:

- a) "comprises" (claim 1, line 9) has been changed to -- includes --.
- b) "wherein said bonding means has a heating mechanism and bonds the metal bonding portion to each other at a temperature of 180°C or lower" (claim 1, lines 14-16) has been changed to -- wherein said bonding means includes a heating mechanism for heating the bonding portion to a temperature of 180°C, --.
- c) "includes means" (claim 1, line 17) has been changed -- includes a dispersion means --.
- d) "includes means" (claim 1, line 20) has been changed -- includes a roughness means --.
- e) "or less" (claim 1, line 22) has been deleted.
- f) "includes means" (claim 1, line 26) has been changed -- includes a adjusting means --.
- g) "4 μm or less;" (claim 1, line 29) has been changed -- 4 μm or less, --.
- h) "gold;" (claim 1, line 31) has been changed -- gold, --.
- i) "100 nm or less;" (claim 1, line 33) has been changed -- 100 nm, said --.
- j) "a surface hardness of the metal bonding portions is set at 100 or less in Vickers hardness Hv; at least one of the metal bonding portions is formed by a plurality of bumps" (claim 1, lines 34-37) has been changed to: -- the metal

bonding portions having 100 or less in Vickers hardness and are in form of a plurality of bumps, wherein each of the bump having, --.

k) "or less" (claim 1, line 38) has been deleted.

Further, Applicants' cooperation is requested in correcting any errors of which applicant may become aware in the claims and/or specification.

Prosecution on the merits is closed in accordance with the practice under *Ex parte Quayle*, 25 USPQ 74, 453 O.G. 213, (Comm'r Pat. 1935).

A shortened statutory period for reply to this action is set to expire **TWO MONTHS** from the mailing date of this letter.

Allowable Subject Matter

2. The following is a statement of reasons for the indication of allowable subject matter: that the prior does not teach the following specific limitations including the claimed cleaning means 7, 8, 9 and 10 in combination w/ bonding means 14, 16 etc. includes a dispersion means for making a bonding portion 2, 3, bonding stage 17 between the metal bonding portion 2, 3 at the time of bonding between object, wherein the bonding means includes a roughness means 18 of at least one metal bonding for making a surface roughness of at least one metal bonding portion, wherein the bonding means includes means for bonding the metal bonding portion to each other bonding portion, wherein the bonding means includes a adjusting means 22 of bonding the metal bonding portion to each other for adjusting a parallelism in bonding area between substrate at the time of bonding the metal bonding stage 17 and bonding head 15,

these features taken as alone or in combination w/ the rest of limitations set forth in the claims are not taught by any of the prior art references.

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to TAI NGUYEN whose telephone number is (571)272-4567. The examiner can normally be reached on M-F (7:30 A.M - 4:30 P.M).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bryant can be reached on 571-272-4526. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Minh Trinh/
Primary Examiner, Art Unit 3729
12/23/08

December 16, 2008
TN.